TECHNICAL PART OF INTERIM REPORT

Name of the Asia-wide Programme: ASIA INVEST
Contract reference no.: LA/Asia-Invest II/04 (128402)
Project Title: Open Resources for Conservation Agriculture and Trade and Development (ORCATAD)
Name of Beneficiary: Centre de Coopération Internationale en Recherche Agronomique pour le Développement (CIRAD)
Period covered by this Interim Report: 1 February 2007 to 31 January 2008
Due date of this Interim Report: 15 February 2008

Project Budget	315,800 EUR
Funds Disbursed by Commission to date	103,334 EUR
Expenditure Incurred by Project to date	56,671.19 EUR

Abbreviations and Acronyms

AFD	French Development Agency
ADB	Asian Development Bank
CA	Conservation Agriculture
CIRAD	Centre de Coopération Internationale en Recherche pour le Développement
DAFO	District Agriculture and Forestry Office
DMC	Direct seeding and Mulch-based Cropping systems
EU	European Union
FAN	Faculty of Agriculture of Nabong
FFEM	Fonds Français pour l'Environnement Mondial
LTPC	Lao Trade Promotion Centre
MAF	Ministry of Agriculture and Forestry
MoIC	Ministry of Industry and Commerce
NAFES	National Agriculture and Forestry Extension Service
NAFRI	National Agriculture and Forestry Research Institute
NNRBDP	Nam Ngum River Basin Development Sector Project
PAFO	Provincial Agriculture and Forestry Office
PASS	Rural Development Project for Southern Xayaboury
PCADR	Capitalisation Programme in support of the Rural Development Policy
PRONAE	Lao National Agro-ecology Programme
PROSA	Sector-Based Programme in Agro-ecology

I. Introduction

Executive summary

In line with the proposed Logical Framework and Action plan, all of the outlined activities were approved to commence. However, because of the reorganisation of the Ministry of Agriculture and Forestry (MAF) and staff reallocation within the institutions directly or indirectly involved in the project, including the main partner, NAFRI, there was a delay in signing the agreement between CIRAD and NAFRI and a delay in the setting up of certain activities. This, and due consideration of the cropping calendar, is why priority was given to field activities, while other activities were either initiated or deferred to year 2. The activities carried out and the main results obtained are shown in the following table:

Year 1 **Activities planned**	**Observations**
1a – Open the project website	Deferred to year 2
1b – Open the project e-forum	Deferred to year 2
1c – Bibliography	Completed
1d – Prepare and organise an initial workshop in Lao PDR	Completed in September 2007
2a – Bibliography	Completed
2b – Establishing demonstration plots	Completed on more sites than planned
2c – Verifying eco-friendly products (soil quality)	Completed in Xayaboury Province (200 samples for chemical and biological analyses)
2d – Finalise recommendations for the knowledge base	Started
3a – Prepare multimedia documents	Started
3d – Fields visits	Completed. More than 1000 visits in 2 provinces and more than 3000 days of training on *Conservation Agriculture* in partnership with PRONAE
4a – Initial knowledge base on various concepts and practices	Started at the end of year 1
4b – Building the core of the knowledge base	Deferred to year 2
4c – Enriching the knowledge base	Deferred to year 2
5a – Preparation of dissemination materials	Started
5b – Organisation of Trade Potential Seminar in Lao PDR	Two provincial workshops, not originally planned, were organised in June and July 2007 in the provinces of Xayaboury and Xieng Khouang. They brought together all those involved in rural development, including the commercial sector. The Trade Potential Seminar Workshop was deferred to year 2

II. Implementation of Activities versus Work Plan and Logical Framework

II.1. Action Plan for the first year and Logical Framework

Activities

ACTIVITY 1: Project launch, preparation of a website and selection of field areas

a) Open the project website
b) Open the project e-forum
c) Bibliography
d) Prepare and organise an initial workshop in Lao PDR

ACTIVITY 2: Implementation of conservation techniques

a) Bibliography
b) Establishing demonstration plots
c) Verifying eco-friendly products through chemical and biological soil quality
d) Finalise recommendations for the knowledge base

ACTIVITY 3: Training of farmers and extension services

a) Prepare multimedia documents
d) Fields visits

ACTIVITY 4: Building up of the knowledge base

a) Initial knowledge base on various concepts and practices
b) Building the core of the knowledge base
c) Enriching the knowledge base

ACTIVITY 5: Communication and Dissemination Activity

a) Preparation of dissemination materials
b) Organisation of Trade Potential Seminar in Lao PDR

Initial Action Plan

Year 1 Activities	Semester 1						Semester 2						Implementing body
	1	2	3	4	5	6	7	8	9	10	11	12	
1a – Open the project website													NAFRI
1b – Open the project e-forum													NAFRI
1c – Bibliography													CIRAD + NAFRI + WU
1d – Prepare and organize an initial workshop in Lao PDR													CIRAD + NAFRI + WU
2a – Bibliography													CIRAD + NAFRI
2b – Establishing demonstration plots													CIRAD + NAFRI
2c – Verifying eco-friendly products (soil quality)													CIRAD + NAFRI
2d – Finalise recommendations for the knowledge base													CIRAD + NAFRI + WU
3a – Prepare multimedia documents													CIRAD + NAFRI
3d – Fields visits													CIRAD + NAFRI
4a – Initial knowledge base on various concepts and practices													NAFRI + CIRAD
4b – Building the core of the knowledge base													NAFRI + CIRAD
4c – Enriching the knowledge base													NAFRI + CIRAD + WU
5a – Preparation of dissemination materials													NAFRI
5b – Organisation of Trade Potential Seminar in Lao PDR													NAFRI + CIRAD + WU

Logical Framework of the project

	Intervention logic	Objectively verifiable indicators of achievement	Sources and means of verification	Assumptions
Overall objectives	* To facilitate the integration of Lao PDR into the fast-growing global information society using ICT tools for the promotion of conservation and agricultural techniques which will in turn promote trade in eco-friendly agro-products	Increased adoption of conservation agriculture techniques in the target provinces resulting in enhanced production of eco-friendly products available to the export market	Availability of the open-source knowledge base on conservation agriculture online Agricultural statistics from: * Ministry of Agriculture and Forestry * Provincial and district extension services * Surveys	
Project purpose	* To increase the practice of conservation agriculturel techniques and production of eco-friendly agro-based goods by using IT&C solutions * To reinforce the institutional capabilities of intermediary business organisations and SMEs of Lao PDR with respect to niche markets and new business opportunities in the international market for eco-friendly products	10 cropping systems/Province with conservation agriculture techniques well-described according to the socio-economic and biophysical context and their conditions of adoption One project website linked to database of conservation agriculture techniques and production Extension of conservation agriculture techniques in 2 Provinces 3 districts in each province = 6 districts each year Requests from other provinces	Field Reports and quarterly updates of the project prepared by the project team Agricultural statistics from: * Ministry of Agriculture and Forestry * Provincial and district extension services * Surveys	The Government of the Lao PDR has already decided to promote conservation agriculture practices in the country. It has issued an official decree signed by the Council of Ministers to all the provincial administrations to promote these alternative practices. NAFRI and NAFES are fully incorporated by the decree of the council of Ministers and have to contribute to the five year plan of the MAF to extend Conservation agriculture techniques to all the Lao PDR. Spirited cooperation of the local SMEs and business organisations
Expected results	***Concrete Outputs:*** * Sources of knowledge base on conservation agriculture techniques for certain cash crops available on the internet and other media * Best practices in conservation agriculture adapted by farmers in the targeted areas * Knowledge of the business organisations and SMEs about the potential for international trade (production and marketing mechanisms) in eco-friendly products enhanced	Operational website Synthesis from 300 soils analyses 500 copies of all modules products distributed 1000 copies of cd-rom distributed 30 farmers/district = 180 farmers each year * 6 demonstration plots * 5 interventions in the media (TV, Radio, newpapers…) each year * 2 trade seminars (1 in Lao PDR, 1 in France) * 2 communication seminars/year * 1 launch and 1 final workshop * 1 long term (6 months) practical training session in each province each year * 3 short term (1 week to 10 days) training sessions in each province each year * 5 NAFRI Staff trained during the project * 2 NAFRI staff (ToT)/district = 6 NAFRI staff each year (ToT) * 10 Extension workers/district = 60 extension workers each year * 200 fields visits each year by farmers, extensionists, policy makers, media, Rural Development Project managers…	A project website linked to knowledge base on-line * frequent visits/hits on the project website Availability and diversity of materials on both soft and hard formats Regular reports and seminars of the project, associated projects and NAFRI Reports from: * Ministry of Agriculture and Forestry * Provincial and district extension services * Rural Development Projects (PRONAE…) Dissemination seminars and materials in form of brochures and exhibits Two trade potential dissemination seminars organised; one in Asia, one in France, to disseminate the products addressing the business communities and intermediary business organisations	The NAFRI and Extension Services' (NAFES) capacity to absorb and continue using what they got from the project is confirmed by the already existing dynamics in the extension of conservation agriculture in the districts where they work together The conditions of adoption of these techniques by the farmers should be studied, but due to the large diversity of cropping systems (even for the poor) proposed and to their positive impact to the socio-economic results, the extension of DMC systems will progress in tandem with communication and training. Appropriate minimal social conditions in the remote areas of Lao PDR Timely support from business organisations
Activities	***Activities:*** a) project launch, preparation of website, selection of field areas b) Implementation of conservation techniques c) Training of farmers and extension services d) Building up knowledge base on conservation agriculture best practices for eco-friendly cash crops, which will be available online, as cd-roms and books e) Communication & Dissemination of activities about the scope for international trade in eco-friendly agro products	***Means:*** Provision of web-server, IT equipment, mobilisation of agronomists, field staff, vehicles Bibliography, Demonstration Plots, Agronomists, Field trips Communication expert, Training modules IT staff with equipment Training Sessions for target groups, Seminars, production of dissemination material, intermediary business organisations and SMEs		Spirited cooperation of the local agencies from the State, business organisations and SMEs

II.2. ACTIVITY 1, Project launch, preparation of a website and selection of field areas

The aim of this first activity is to open a website which will disseminate information on the project, including soft- and hard-ware, about conservation agriculture techniques to build a comprehensive and open knowledge base on exemplary practices in conservation agriculture for certain cash crops, staple crops and livestock activities.

This knowledge base will be developed as a web-based application and will serve as an effective tool in the hands of business organisations to encourage the production of market-oriented cash crops, creating a vibrant international and rural economy. A first workshop will be organized in Lao PDR to establish technical description standards and to select the appropriate IT database format.

For reasons explained later, activity 1 was redefined according to local priorities. Consequently, the website and discussion forum have not yet been opened. On the other hand, the first work session for all the partners was able to take place from 16 to 24 September 2007. The timetable was as follows:

- 16 - 19 September field visits in Xieng Khouang province
- 21 September, the launch ceremony was organised in Vientiane
- 22 - 24 September, training for the partners on keeping the accounts for the project was organised by a representative of CIRAD/France (Ms Valérie Leuzy)

The following persons took part in the field visits:

National Agricultural and Forestry Institute

- Mr Kamkheo Paniasiry, National Director of the Lao National Agro-ecology Programme (PRONAE)
- Mr Soulivanthong Kingkeo, Coordinator for MAF of Agro-ecology activities for Xieng Khouang province

Faculty of Agriculture of Nabong

- Mr Tue, Lecturer in Livestock
- Mr Inthong, Lecturer in Agriculture
- Ms Marie Camille Bussenault, Technical Assistant

CIRAD

- Mr Pascal Lienhard, Technical Assistant PRONAE at Xieng Khouang
- Mr Johnny Boyer, Soil Biologist, CIRAD leader for ORCATAD
- Mr André Chabanne, CIRAD participant for ORCATAD and Technical Advisor for the Sector-based Programme in Agro-ecology (PROSA)
- Ms Valérie Leuzy, Accounting, CIRAD/Montpellier

European Union

- Ms Khankeo Moonvong, Project Officer

University of Wageningen

- Mr Rico Lie, CIS Laboratory (Communication and Information Studies), partner in the ORCATAD project

Persons met in Xieng Khouang

- Mr Bouasone Dalavong, Head of PAFO for Xieng Khouang province
- Mr Thammakhanh Sosomphou, Head of PRONAE for Xieng Khouang
- Mr Sengphanh Sayphoumie, PRONAE trainer
- Mr Ianlang Phantanivong, Technical Supervisor, PROSA

Discussions were held to agree on a first draft of the list of Conservation Agriculture practices in the area where the project work will be carried out. Prior to the meeting, the partners had already prepared a number of proposals that were assessed during the meeting in order to reach a common agreement. The focal theme of the meeting, however, was to discuss the logical data format of the description of conservation agriculture techniques. Guidelines will be prepared for the description of the cropping systems. These data will be available for use in Activity 3 (training of farmers and extension services): the types of information given to describe the cropping systems and their areas of application (socio-economic and biophysical conditions).

The following persons took part in the opening workshop of the project, and were introduced to the main features of the project (objectives, activities, resources mobilised, indirect partners, associated projects):

Name	Organisation
Ms Vanaly SAPHANTHONG	Deputy of Permanent Secretary, Ministry of Agriculture and Forestry (MAF)
Ms Josephine KALINAUCKAS	European Union, Deputy
Mr Khamphay MANIVONG	DDG-National Agriculture and Forestry Institute (NAFRI)
Mr Gabriel de TAFFIN	Regional Director of CIRAD
Mr Xaypladeth CHOULAMANY	Deputy Director Department of Planning and International Cooperation, MAF
Mr Anonh KHAMHOUNG	MAF
Mr Rico Lie	Wageningen University
Ms Khamkèo MOONVONG	European Union
Mr Jean François GRUNSTEIN	French Embassy
Mr Zacharie MECHALI	French Agency for Development
Mr Khamkèo PANYASIRI	National Director PRONAE – PCADR, NAFRI
Mr Bounmy RATTANATRAY	National Director PASS – PCADR, MAF
Mr Thonchanh BOUNTHALA	Coordinator PROSA
Mr Ketkeo PHOUANGPHET	Department of Planning, MAF
Mr Boulep CHOUNTHAVONG	MAF
Mr Khampheua KHAMVILAY	Lao Farmers products
Mr Vanthong	Technical advisor
Mr Bandith	IT Centre, NAFRI
Mr Phonpaseut	IT Centre, NAFRI
Ms Theu VENVONGSOTH	Ministry of Industry and Commerce (MoIC)
Ms Bounsay CHANTHARATH	PRONAE, Technical assistant NAFRI
Mr Xaysomphet	Deputy Director Division
Mr Tue SOULINTHONE	National University of Laos
Mr Suksavanh SAYARATH	DPTP/MoIC
Ms Marie-Camille BUSSENAULT	Faculty of Agriculture Nabong (FAN)
Mr Inthong SOMPHOU	Faculty of Agriculture of Nabong
Mr Sitha KHEMMARATH	Faculty of Agriculture of Nabong
Mr André CHABANNE	Technical assistant, PROSA, MAF/CIRAD
Mr Johnny BOYER	CIRAD
Mr Florent TIVET	Technical Assistant, PRONAE – PCADR, MAF/NAFRI
Mr Hoà TRAN QUOC	Technical Assistant, PRONAE – PCADR, MAF/NAFRI
Mr Frédéric JULLIEN	Technical assistant PASS – PCADR, MAF
Mr Pierre GRARD	CIRAD
Mr Carl MOSSBERG	Ramboll Natura, Technical assistant
Mr Michael VICTOR	Ramboll Natura, Technical Assistant

Mr Joakim	Ramboll Natura, NAFRI
Mr Joost FOPPES	SNV
Mr Franck CAUSSIN	Lao Trade Promotion Centre
Mr Jean-Christophe CASTELLA	IRD
Ms Valérie LEUZY	CIRAD/France, Accounting
Ms Noudavanh	PRONAE

Due to the reorganisation of the Ministry of Agriculture and Forestry (MAF) and staff reallocation within the institutions directly or indirectly involved in the project, including the main partner, NAFRI, there was a delay in signing the agreement between CIRAD and NAFRI and a delay in the setting up of certain activities. In view of the farming calendar, linked to the seasonal climate (beginning of the rainy season in April) priority was given to field activities. For this reason it was decided to defer the activities on the website and discussion forum until 2008.

However, this period was spent profitably in revaluating the quantitative objectives of the project, notably in terms of the effects on the number of people, provinces and districts affected by the expected results. This will be described later (activities 2 and 3). This is also due to the strong political desire of the national authorities for the promotion of Conservation Agriculture.

Consequently, the resources used were as follows:

Resources used

Personnel	Activity		Used	Planned
NAFRI (Software Developer)	1a	Open the website	0	5
NAFRI (Technician)	1a	Open the website	0	5
NAFRI (Technician)	1a	Open the website	0	5
NAFRI (Software Developer)	1b	Implementing e-forum	0	5
NAFRI (Technician)	1b	Implementing e-forum	0	5
NAFRI (Technician)	1b	Implementing e-forum	0	5
Project Manager Applicant	1c	Prepare bibliography	5	5
Cirad Senior Expert	1c	Prepare bibliography	5	5
WU Senior Expert	1c	Prepare bibliography	5	5
NAFRI (Trainer)	1c	Prepare bibliography	5	5
NAFRI (Agronomist)	1c	Prepare bibliography	5	5
Project manager Applicant	1d	Prepare workshop	5	5
NAFRI (Software developer)	1d	Prepare workshop	5	5
NAFRI (Technician)	1d	Prepare workshop	5	5
NAFRI (Technician)	1d	Prepare workshop	5	5
Project Manager Applicant	1d	Participate in the workshop	5	5
NAFRI (Software Developer)	1d	Participate in the workshop	5	5
NAFRI (Trainer)	1d	Participate in the workshop	5	5
NAFRI (Agronomist)	1d	Participate in the workshop	5	5
WU Senior Expert	1d	Participate in the workshop	5	5
CIRAD Senior Expert	1d	Participate in the workshop	5	5
NAFRI Technician	1d	Participate in the workshop	5	5
NAFRI Technician	1d	Participate in the workshop	5	5
		Total	**85**	**115**

IT equipment: One personal laptop and laptop support equipment

Travel Flights:

1 Europe - Asia
1 Asia - Asia

Running Costs: Costs of the launch workshop

II.3. ACTIVITY 2: **Implementation *of conservation techniques***

The second activity aims firstly to develop alternative techniques for conservation agriculture. It will also involve laying out eco-friendly demonstration plots. The quality of these practices will then be studied through their impact on the soil environment. Results from these two studies will be fed into the knowledge base.

As already described, this is the subject on which most of the activities were focused in the first year.

As mentioned in the project document, the establishment of the demonstration and training sites and the organisation of visits were NAFRI's contribution to the project, notably through its National Agro-ecology Programme (PRONAE) funded by AFD, FFEM and CIRAD. In addition, other projects were associated with it, notably PASS – PCADR and the Sector-Based Programme on Agro-Ecology (PROSA/MAF). All the documents concerned with Agro-ecology coming from these different projects have been collected and are being translated and converted to PDF format to be referenced in the database and to be freely accessible from the website or in traditional multimedia forms (CD-Rom etc.).

The demonstration plots were laid out and/or maintained in:

- 4 districts in the south of Xayaboury Province,
- 4 districts in the Province of Xieng Khouang,
- 6 other districts in the provinces of Vientiane, Luang Prabang and Xieng Khouang. Because of the partnership contract between PRONAE and the Nam Ngum River Basin Development Sector Project (NNRBDP), this involved support for the establishment of training centres for village development clusters (*kumban pattana*).

Taking the natural capital into consideration is the first priority fixed by PRONAE. The main environmental and socio-economic objective will thus be to develop technical alternatives that shall enable the preservation of renewable but not inexhaustible natural resources such as soil and water, and to promote sustainable agriculture that is socially acceptable, economically profitable and environmentally sound. Soil management is the principal integrating topic for all development activities linked to agriculture, livestock, forestry, fishing, preservation of infrastructure, water quality and the quality of life. Centring the approach on soil capital also makes it possible to maintain enough diversity to allow interesting ecosystemic properties to emerge, notably with regards to the natural functions of bio-geochemical regulatory cycles.

To evaluate the impact of eco-friendly practices on the soil environment (chemical and biological parameters), it is important to study these impacts on soil biology, in particular, the soil fauna. To do this, soil macro fauna diversity (soil animals with a size of >2 mm) and soil biological and chemical parameters were studied:

- Soil fauna samples for identification (700 samples)
- Soil samples for chemical analysis (200)

- Soil samples for biological analysis (200)

All the results obtained are being prepared for printing and will be included in the database. The resources used were as follows:

Personnel		Activities	Planned	Used
Project Manager Applicant	2a	Prepare bibliography	5	5
CIRAD Senior Expert	2a	Prepare bibliography	5	5
NAFRI (Agronomist)	2a	Prepare bibliography	5	5
Project Manager Applicant	2b	Demonstration plots	5	2
CIRAD Senior Expert	2b	Demonstration plots	5	2
NAFRI (Trainer)	2b	Demonstration plots	8	8
NAFRI (Agronomist)	2b	Demonstration plots	40	40
NAFRI (Technician)	2b	Demonstration plots	8	8
Project Manager Applicant	2c	Ecofriendly products	9	9
NAFRI (Trainer)	2c	Ecofriendly products	8	8
NAFRI (Agronomist)	2c	Ecofriendly products	15	15
NAFRI (Technician)	2c	Ecofriendly products	4	4
WU Senior Expert	2d	Information for KB	5	5
Project Manager Applicant	2d	Information for KB	0	0
NAFRI (Trainer)	2d	Information for KB	4	4
NAFRI (Agronomist)	2d	Information for KB	10	10
NAFRI (Technician)	2d	Information for KB	8	8
		Total	**138**	**138**

Equipment and supplies:
Instruments for macro fauna identification and quantification (2 stereo-microscopes and 1 digital balance)

Travel Flights: 3 Asia - Asia

Running costs: 200 Soil analyses. Demonstration plots maintenance, space and running costs (NAFRI and contributions towards other projects).

II.4. ACTIVITY 3: Training of farmers and extension services

The aim of this activity is to support and reinforce the existing training organisations with a specific focus on conservation agriculture. The conservation agriculture techniques, specifically, those relating to direct sowing and cover crops are new and it is necessary to define new training modules for the promotion and extension of these eco-friendly cropping systems.

In the first year of the project, the training and public awareness activities concentrated on the preparation of multimedia documents and visits to the demonstration plots through the support of AFD and FFEM.

In support of activity 2, all the training documents emerging from the different associated projects have been collected. These documents will be standardised using a common layout and supplemented by other training documents arising directly from the project in year 2.

As outlined above for activity 1, priority was given to field activities. The creation of multimedia support material will begin in earnest in the second year. For this reason not all of the IT and audiovisual equipment has yet been purchased.

As regards the visits, the objectives were not merely achieved but often exceeded. In fact, on the initiative of, and organised by the different associated projects, many visits and also training sessions were organised. In Xieng Khouang province for example, the following activities were organised by NAFRI/PRONAE together with its partner network.

Training provided by PRONAE		**Persons**	**Day**	**m/d***
Farmers	How to implement no-till systems and crop rotations How to better use pesticides	1219	29	1219
Project technicians	Training on Conservation Agriculture (CA)	10	6	60
Traders	Basic knowledge and information on farm machinery and on pesticides	6	1	6
NNRBDP team	Long course in CA practices	21	240	5040
Field Day				**921**
Farmers	Publicising on CA	336	23	336
Projects and political persons	Publicising on CA	585	65	585

*m/d: man/day

Training provided

For Farmers

29 half-day sessions were offered at the beginning of the year (Feb 6 – March 7); 30 villages took advantage of these sessions, which were organised in the following way:

- Impacts of conventional land preparation on the environment (natural, physical and human capitals),
- Technical/economic results obtained in 2006 in 6 pilot villages,
- Training on *How to implement no-till systems and crop rotations* and *How to better use herbicides*,
- Demonstration on farm machinery.

These short sessions played an important role in spreading awareness of Conservation Agriculture practices among all participants at the village and district level.

For the local traders

Following the training organised in Pek district, Xieng Khouang, in December 2006 for the local traders and agricultural services of the district, an identical training session was given on 5 January to the main farm machinery traders in Kham in the presence of a representative of the district agricultural service.

Technicians and Extension officers

Apart from the 21 NNRBDP technicians invited to the long training course (8 months), 10 technicians from the DANIDA project (Danish cooperation) were accepted for 6 days in March to learn about Conservation Agriculture.

23 days were organised which enabled 336 farmers to be invited from partner groups of the project in Xieng Khouang and also partner groups of farmers from PRONAE and PASS in Xayaboury, together with farmers working in partnership with the NNRBDP project.

Visits organised for development projects and decision-makers

65 days of visits took place and saw the arrival of 586 visitors, including a delegation from the National Assembly led by Mr Thongsing Thammavong (President of the Lao National Assembly), representatives of the Office of the Committee of the PAFO plan for the 4 provinces (Xieng Khouang, Luang Namtha, Luang Prabang, Oudomxay) and the members of the MAF Plan Committee.

Field days were organised for donors (World Bank, AFD, GTZ, ADB), together with numerous heads of agricultural services of the different provinces (Huapanh, Bolikhamxay, Luang Prabang etc.). Discussions were held between groups from the provinces of Xieng Khouang and Xayaboury

Exchanges of views between groups of farmers took place between July 16 and August 17. 55 farmers from Xieng Khouang province, divided into 4 groups, met with the project technical team in Xayaboury for 5-day discussions between farmers (2 days travelling, 3 days of visits and discussions indoors and in the field). Likewise 72 farmers from Xayaboury were invited to Xieng Khouang.

The main objectives of these meetings for the farmers were:

- To encourage meetings and discussions between farmer groups already in existence
- To hear news of innovations and technology (farm equipment)
- To analyse their problems and aspirations
- To follow up on discussions initiated during the provincial workshops

Study/work visit of groups with the Agriculture Faculty of Nabong on Conservation Agriculture

A delegation of 8 lecturers and 60 university students (35 MSc students and 25 receiving in-service training) was received from 29 October until 2 November.
The time was divided between field visits and working groups on the following subjects:

- Holistic approach followed by the projects and based on creating innovative systems training of stakeholders and extension processes (Séguy et al, 1996)
- No-till systems and rotational sequence for rain-fed rice on the Plain of Jars
- Opportunities for cattle fattening on the ecology of the Plain of Jars (Xieng Khouang)
- Pig fattening activities: rearing techniques using mixed soil/rice straw bale litter (experience from the PASS – PCADR project)

- No-till systems and crop rotations for cash and staple crops
- Diversification on mountainous areas, example of the association Cassava – *Stylosanthes guianensis*.

This working group resulted in the construction and presentation by the students of posters which were presented and discussed in a second workshop with representatives of the Provincial Agriculture and Forestry Office.

Resources used

Personnel	Activities		Planned	Used
Project Manager Applicant	3a	Prepare documents	5	5
NAFRI (Trainer)	3a	Prepare documents	8	8
NAFRI (Agronomist)	3a	Prepare documents	4	4
NAFRI (Technician)	3a	Prepare documents	30	10
Project Manager Applicant	3b	Training of trainers	0	0
CIRAD Senior Expert	3b	Training of trainers	0	0
WU Senior Expert	3b	Training of trainers	0	0
NAFRI (Trainer)	3b	Training of trainers	0	0
NAFRI (Agronomist)	3b	Training of trainers	0	0
NAFRI (Software Developer)	3b	Training of trainers	0	0
NAFRI (Technician)	3b	Training of trainers	0	0
NAFRI (Technician)	3b	Training of trainers	0	0
WU Senior Expert	3c	Farmers Fields Schools	0	0
Project Manager Applicant	3c	Farmers Fields Schools	0	0
NAFRI (Trainer)	3c	Farmers Fields Schools	0	0
NAFRI (Agronomist)	3c	Farmers Fields Schools	0	0
NAFRI (Technician)	3c	Farmers Fields Schools	0	0
NAFRI (Technician)	3c	Farmers Fields Schools	0	0
Project manager Applicant	3d	Fields Visits	5	5
CIRAD Senior Expert	3d	Fields Visits	5	5
NAFRI (Trainer)	3d	Fields Visits	8	8
NAFRI (Agronomist)	3d	Fields Visits	4	4
NAFRI (Technician)	3d	Fields Visits	4	4
		TOTAL	**73**	**53**

IT equipment: 1 Personal laptop and laptop support equipment. The other personal computers, laptop, laptop support equipment, video and photographic equipment have not yet been purchased. They will be bought at the beginning of the second year. In the first year, the IT equipment of the other projects was used.

Running costs: All publishing, editing and copies are planned for the second and the third year. Training and field visit costs: NAFRI and other projects contribution.

II.5. ACTIVITY 4: Building up of the knowledge base

The aim of this activity is to build the knowledge base on conservation agriculture practices. This activity will draw upon activities 1, 2 and 3, namely bibliography, implementation of alternative techniques and the capacity building activities. This will result in a fine-tuned final version of the knowledge base in the form of CD-ROMs and a web version.

The priority given to field work (activities 1, 2 and 3) forced us to defer many of the planned activities on this subject. We could only collect the first documents applicable to activities 1, 2 and 3, finalise their layout and convert them to PDF format in order to link them with the database. Because of the delay in the starting timetable, the expert from Wageningen University (Dr. Rico Lie) did not make his support visit until the beginning of year 2 (mid-February to mid-March 2008).

Resources used

Personnel	Activities		Planned	Used
Project Manager Applicant	4a	Initial Knowledge Base	5	5
CIRAD Senior Expert	4a	Initial Knowledge Base	5	5
NAFRI (Software Developer)	4a	Initial Knowledge Base	5	5
NAFRI (Agronomist)	4a	Initial Knowledge Base	5	5
NAFRI (Technician)	4a	Initial Knowledge Base	100	20
NAFRI (Technician)	4a	Initial Knowledge Base	75	25
Project Manager Applicant	4b	Building Knowledge Base	5	0
CIRAD Senior Expert	4b	Building Knowledge Base	5	0
NAFRI (Trainer)	4b	Building Knowledge Base	5	0
NAFRI (Agronomist)	4b	Building Knowledge Base	5	0
NAFRI (Software developer)	4b	Building Knowledge Base	10	0
NAFRI (Technician)	4b	Building Knowledge Base	50	0
NAFRI (Technician)	4b	Building Knowledge Base	50	0
WU Senior Expert	4c	Development Knowledge Base	5	0
NAFRI (Trainer)	4c	Development Knowledge Base	10	0
NAFRI (Agronomist)	4c	Development Knowledge Base	10	0
NAFRI (Developer)	4c	Development Knowledge Base	10	0
NAFRI (Technician)	4c	Development Knowledge Base	50	0
NAFRI (Technician)	4c	Development Knowledge Base	50	0
WU Senior Expert	4d	Final Release	10	0
NAFRI Trainer	4d	Final Release	0	0
NAFRI (Agronomist)	4d	Final Release	0	0
NAFRI (Software Developer)	4d	Final Release	0	0
NAFRI (Technician)	4d	Final Release	0	0
NAFRI (Technician)	4d	Final Release	0	0
		Total	**470**	**65**

IT equipment

The personal computers, laptop, laptop support equipment, video and photographic equipment have not yet been purchased. They will be bought at the beginning of the second year. In the first year, we used the IT equipment of the other projects.

II.6. ACTIVITY 5: Communication and Dissemination Activity

The aim of this activity is to create effective communication networks between the various stakeholders involved. This activity will progress in parallel with other activities to attain the maximum visibility and to create awareness of the trade potential for agro-based SMEs.

The activity is focused on preparing various publicity materials: 1) on the advantages of the conservation techniques over conventional practices, addressed mainly towards the farming communities and extension services and 2) on the potential for trade in eco-friendly agricultural products for the international market, addressed towards the intermediary business organisations and the SMEs. A sound communication strategy will be adopted with the help of the communication expert of the project, who will ensure that the materials are appropriately and effectively designed for the target groups throughout the project.

Because of the delayed timetable, the "Trade Potential" seminar will be organised in the middle of the second year of the project. The work on this subject will be summarised at the time of the first collection of publicity material.

It is important to emphasise, however, that through the intermediary support (technical and financial) of other associated projects, PROSA, PRONAE and PASS, two provincial workshops were organised at Xayaboury and Xieng Khouang in June and July 2007. These workshops were intended to define the basic principles of the construction of a National Agro-ecology Plan. This plan is part of the first priorities of the Ministry of Agriculture and Forestry and the publicity strategy for agro-ecological techniques must conform with the demand of the central authorities.

Each of these workshops brought together all the participants in rural development, namely: farmers, provincial and district extension services, representatives of provinces and districts, the private sector (service providers, shopkeepers, merchants, etc.), the banking sector and the MAF. Hence more than 200 people attended these regional workshops.

These workshops allowed the different groups of players to interact so as to reveal synergies and hindrances in publicising agro-ecological techniques. The ideas which emerged were followed up during the whole of 2007 and each participant group has chosen several representatives who will represent the provinces at a national workshop to be held in Vientiane in 2008.

Resources used

Personnel		Activities	Planned	Used
NAFRI (Trainer)	5a	Spreading materials	5	5
NAFRI (Agronomist)	5a	Spreading materials	5	5
NAFRI (Software Developer)	5a	Spreading materials	0	0
NAFRI (Technician)	5a	Spreading materials	0	0
NAFRI (Technician)	5a	Spreading materials	0	0
Project Manager Applicant	5b	Trade seminar - Laos	5	0
CIRAD Senior Expert	5b	Trade seminar - Laos	5	0
WU Senior Expert	5b	Trade seminar -Laos	5	0
NAFRI (Trainer)	5b	Trade seminar - Laos	5	0
NAFRI (Agronomist)	5b	Trade seminar -Laos	5	0
NAFRI (Software Developer)	5b	Trade seminar - Laos	5	0
NAFRI (Technician)	5b	Trade seminar - Laos	5	0
NAFRI (Technician)	5b	Trade seminar - Laos	5	0
Project Manager Applicant	5c	Trade seminar - France	0	0

CIRAD Senior Expert	5c	Trade seminar France	0	0
WU Senior Expert	5c	Trade seminar - France	0	0
NAFRI (Software Developer)	5c	Trade seminar - France	0	0
Project Manager Applicant	5d	Final Workshop - Laos	0	0
CIRAD Senior Expert	5d	Final Workshop - Laos	0	0
WU Senior Expert	5d	Final Workshop - Laos	0	0
NAFRI (Trainer)	5d	Final Workshop - Laos	0	0
NAFRI (Agronomist)	5d	Final Workshop - Laos	0	0
NAFRI (Software Developer)	5d	Final Workshop - Laos	0	0
NAFRI (Technician)	5d	Final Workshop - Laos	0	0
NAFRI (Technician)	5d	Final Workshop - Laos	0	0
			50	10

pm: Provincial Workshops costs: NAFRI and others projects contribution

II.7. **Position according to the Work Plan and the Framework Plan**

The main differences between with the Work Plan and the Framework plan are explained by the reasons given in the description of the activities. Because of the delay in starting the project, the activities of year 1 focused mainly on the fieldwork. This is why fewer staff were employed than expected, and the audiovisual and IT equipment were not bought until the beginning of year 2.

Revised Action Plan: Priority on fieldwork activities

Year 1	Semester 1						Semester 2						
Activity	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**Observations**
1a – Open the project website													Deferred to year 2
1b – Open the project e-forum													Deferred to year 2
1c – Bibliography													
1d – Prepare and organize an initial workshop in Lao PDR													Deferred to month 8
2a – Bibliography													
2b – Demonstration plots implementation													Start earlier
2c – Verifying eco-friendly products (soil quality)													Start earlier
2d – Finalise recommendations for the knowledge base													
3a – Prepare multimedia documents													
3d – Fields visits													Start earlier
4a – Initial knowledge base on various concepts and practices													Deferred to the end of year 1
4b – Building of the core of the knowledge base													Deferred to year 2
4c – Enriching the knowledge base													Deferred to year 2
5a – Preparation of dissemination materials													
5b – Organisation of Trade Potential Seminar in Lao PDR													Provincial workshops in July 2007 and Trade seminar deferred to start to year 2

According to the Framework

	Intervention logic	Objectively verifiable indicators of achievement	Objectively verifiable indicators of achievement of Year 1	Sources and means of verification
Overall objectives	** To facilitate the integration of Lao PDR into the fast pacing global information society using ICT tools for promotion of conservation agricultural techniques in turn promoting trade in eco-friendly agro products*	*Increased adoption of conservation agriculture techniques in the target provinces resulting in enhanced production of eco-friendly products available of export market*	In Years 2 and 3	*Availability of the open-source based knowledge base on conservation agriculture online* *Agricultural statistics from:* ** Ministry of agriculture et forestry* ** Provincial and district extension services* ** Surveys*
Project purpose	** To increase the practice of conservation agricultural techniques and production of eco-friendly agro-based goodsby using IT&C solutions*	*10 cropping systems/Province with conservation agriculture techniques well described according to the socio-economic and biophysic context and their conditions of adoption*	More than 10 cropping systems combining annual crops, perreneal crops and animals In 2008, prospect for medicinal plants and Non Timber Forest Products (NTFPs)	*Field Reports and quarterly updates of the project prepared by the project team* *Agricultural statistics from:* ** Ministry of agriculture et forestry* ** Provincial and district extension services* ** Surveys*
		One project website linked to database of conservation agricultural techniques and production	In year 2	
	** To reinforce the institutional capabilities of intermediary business organisations and SMEs of LaoPDR in respect to niche market and new business opportunities in*	*extension of conservation agriculture techniques in 2 Provinces* *3 districts in each province = 6 districts each year*	Already: : 4 districts in Xayaboury Province, 3 districts in Xieng Khouang Province and 3 districts in Vientiane Province	
	the international market for eco-friendly products	*Requests of others provinces*	Already: requests from Champassack and Luang Prabang and from the 6 districts inthe center and the north of Sayaboury Province	
Expected results	***Concrete Outputs:***	*Operational website with e-forum*	In beginning of year 2	*A project website linked to knowledge base on-line* ** fréquent visits/hits of the project website*
	** Sources of knowledge base on conservation agricultural techniques for certain cash crops on the internet and other media built*	Synthesis from 300 soils analyses	Already started (100 soil sampling and anysis)	
		500 copies of all modules products distributed 1000 copies of cd-rom distributed	In Years 2 and 3 In Years 2 and 3	*Availability and diversity of the materials on both soft and hard formats* *Regular reports and seminars of the project , associated projects and NAFRI*
	** Best practices in conservation agriculture adapted by farmers in the targeted areas*		Already started with NAFRI/PRONAE, MAF/PROAS and MAF/PASS projects in 3 districts of Xieng Khouang Province and 4 district in the South of Sayaboury Province. More than 2 000 ha are concerned.	
	** knowledge of the business organizations and SMEs about the potential for international trade (production and marketing mechanisms) in eco-friendly products enhanced*		In Years 2 and 3	*Reports from:*
		30 farmers/district = 180 farmers each year ** 6 demonstration plots* ** 5 interventions in the media (TV, Radio, newspapers…) each year*	Demonstration plots in 14 districts with PRONAE, PROSA and PASS Projects In year 2 and 3	** Ministry of Agriculture and Forestry* ** Ministry of agriculture et forestry* ** Provincial and district extension services* ** Rural Developement Projects (PRONAE…)*
		* 2 trade seminars (1in RDP Lao, 1 in France) ** 2 communication seminars/year* * 1 launch and 1 final workshop	In year 2 and 3 Two provincial workshops in june and July 2007 Launch Worshop in september 2007	*Dissemination seminars and materials* *in form of brochures and exhibits* *Two trade potential dissemination seminars organised one in Asia, one in France, to desiminate the products adressing the business communities an intermediary business organisations*
		** 1 long term (6 months) practical training session in each province each year* ** 3 short term (1 week to 10 days) training sessions in each province each year*	Already started with NAFRI/PRONAE, MAF/PROAS and MAF/PASS projects Already started with NAFRI/PRONAE, MAF/PROAS and MAF/PASS projects	
		** 5 NAFRI Staff trained during the project* * 2 NAFRI staff (ToT)/district = 6 NAFRI staff each year (ToT) * 10 Extension workers/district = 60 extension workers each year	Already started with NAFRI/PRONAE project Already started with NAFRI/PRONAE project Already started with PRONAE, PROSA et PASS projects.	
		** 200 fields visits each year by farmers, extensionists, policy makers, media, Rural Development Project managers…*	Already, more than 1000 visits in 2007 into the two Provinces with PRONAE, PROSA and PASS projects.	

Human resources

Personnel in Year 1	Planned	Used	Observations
Project Manager Applicant	40	46	
CIRAD Senior Expert	25	27	
WU Senior Expert	30	15	Support mission at start of year 2
NAFRI (Software Developer)	45	15	Training, communication and Knowledge Base building activities in Years 2 and 3
NAFRI (Technician)	210	48	
NAFRI (Technician)	210	50	
NAFRI (Trainer)	120	51	
NAFRI (Agronomist)	120	98	
Total	800	350	

III. Partnership

Level of involvement of each partner in the action

CIRAD, France (Applicant)

The CIRAD (Centre de Coopération Internationale en Recherche Agronomique pour le Développement), is the French specialist in development-oriented agricultural research for tropical regions. The CIRAD agro-ecology team will be responsible for coordinating the whole action by bringing together the various aspects, such as the designing of conservation techniques, implementation in the field, and harmonising the progress in the field with training and development of the knowledge base. CIRAD, with its extensive expertise in conservation agriculture, supported by its long experience in the South East Asian region, will prove to be a valuable leader for the project. CIRAD will take primary responsibility for implementing the action, from coordinating with partners, local agencies, organising field trips, capacity building activities, building the knowledge base and finalising the end products.

National Agriculture and Forestry Research Institute, Lao PDR (Partner)

The NAFRI, Lao PDR, has been at the forefront of research into the production and propagation of cereal crops; the collection, evaluation and conservation of indigenous genetic resources; and research into cultivation techniques for crops, cropping patterns and agricultural production systems. The partner will be responsible for the activities related to the collection and compilation of data, and contribute to the establishment of the knowledge base of the project. The partner will also be responsible for organising the training of trainers with the Ministry of Agriculture and Forestry and the National Agriculture and Forestry Extension Service. The training sessions will generate feedback which will enrich the quality of the knowledge base. It is significant to note that NAFRI acts as an “in-service training and continuing education” agency.

Sub-department Communication Science (CIS) – University of Wageningen (Partner)

The Research Group of Communication and Innovation Studies (CIS) comes in as a valuable partner in reflecting, guiding and advising on the training modules for the farmers and extension services of the Lao PDR. The expert from CIS will be responsible for academic

teaching of communication strategies and for capacity building activities. Furthermore, CIS will handle the management of mechanisms for generating feedback from the training sessions. CIS' involvement is motivated by learning about how technical agricultural knowledge bases (with conservation agriculture in Laos as a case study), through the use of ICT, could be used in informal and formal extension and other agricultural education. In coordination with NAFRI and CIRAD, CIS will contribute to the organisation of the training sessions for farmers and extension service and will play a major role in enriching and finalising the training modules in the most appropriate forms.

Main role of each partner in implementing the activities described

Activities	Implementing body
1a – Open the project website	NAFRI
1b – Open the project e-forum	NAFRI
1c – Bibliography	CIRAD + NAFRI + WU
1d – Prepare and organize an initial workshop in Lao PDR	CIRAD + NAFRI + WU
2a – Bibliography	CIRAD + NAFRI
2b – Demonstration plots implementation	CIRAD + NAFRI
2c – Verifying eco-friendly products (soil quality)	CIRAD + NAFRI
2d – Finalise recommendations for the knowledge base	CIRAD + NAFRI + WU
3a – Prepare multimedia documents	CIRAD + NAFRI
3d – Field visits	CIRAD + NAFRI
4a – Initial knowledge base on various concepts and practices	NAFRI + CIRAD
4b – Building the core of the knowledge base	NAFRI + CIRAD
4c – Enriching the knowledge base	NAFRI + CIRAD + WU
5a – Preparation of dissemination materials	NAFRI
5b – Organisation of Trade Potential Seminar in Lao PDR	NAFRI + CIRAD + WU

The strength of the partnership involved in the project is linked to the strong political will to publicise agro-ecological techniques to promote conservation agriculture, taking into account the preservation of natural resources. This desire had already been expressed in 2005 by:

- the circular of the Council of Ministers (554/ccm.dc of 21/04/2005),
- the ministerial order of the Ministry of Agriculture and Forestry (0372/df.05 of 11 May 2005).

This desire is currently illustrated by the request of the MAF to include agro-ecology as a basic principle in the creation of centres for training-demonstration-service provision which are already being opened within village development clusters (Kum Ban Pattana).

The MAF aims to create 330 of these centres by 2010. NAFRI, an institute of the MAF and official partner to the project, is directly involved in this initiative and has invested heavily in it. The same can be said for the different MAF projects in the agriculture and conservation domains, namely PROSA, PRONAE and PASS. It is thanks to these different projects that we have been able to receive technical and financial support for setting up field activities.

The weak feature of the partnership was due to the ministerial reorganisation which took place during the first half-year of 2007. It did not alter the MAF priorities but the slippage in the timetable which resulted caused us to review the Action Plan of the project. This

readjustment has not harmed the project. It was just a matter of changing the priorities in the first year, which were diverted to fieldwork. This reorganisation enabled us to exceed the objectives in terms of the number of demonstration plots laid out and field visits made by farmers, extension workers, policy-makers and rural development projects. The work of setting up the website and discussion forum and constructing the database should proceed rapidly at the beginning of the second year of the project.

Although the links at the local level (villages and districts) with the commercial sector are extensive, it is still necessary to improve linkages at the centre. It is especially necessary to improve inter-ministerial communication between the Ministry of Industry and Commerce (MoIC) and MAF.

IV. Methodology and effectiveness

To achieve the objectives, a systematic approach has been used, the aim of which is the progressive transfer of competence to farmers, local authorities, development agencies and private operators. It is based on three principles:

- To develop a generalised iterative approach to respond to the need for regular feed-back from everybody involved in the project so as to validate and adapt in "real time" the supply of technology, methodology and organisation in accordance with the changing biophysical, socio-economic and political context, and in accordance with the demand. Regular evaluation at every stage should make it possible to adapt the activities in real time, to re-orientate the programme and thus to optimise all the resources.
- To develop an integrative approach, bringing together research, extension, training and all the processes of environmental structuring and political and financial decision-making from the start of the project and throughout its life. It is a case of bringing together all those involved in rural development: farmers, extension workers, researchers, the private and banking sector, political leaders and financiers. This is an integrative iterative process, driven by components centred on diagnosis, creation/demonstration, training, monitoring/evaluation, environmental structuring and publicity. Each participant is therefore more or less involved in each of the project activities, and this involvement of each of them is essential to the success of this global systematic approach.
- Modern information and communication technologies offer the promise of transforming the way trade-related services are offered and how these customised applications affect the quality of services and create new opportunities for commerce. In the area of conservation agriculture, a lot depends on the way these techniques are adopted, and on long term sustainability and market linkages. To make this kind of tool available at the institutional level for a country like Lao PDR, should not depend on high-technology products, but rather on robust, user-friendly, cheap or free information technologies.

Agronomy and Conservation Agriculture

Conservation Agriculture techniques are the foundation of this project. A number of areas have been selected to represent the diverse conditions of Lao PDR. This process of adopting and implementing conservation agriculture techniques involves learning about the environment and current practices, prioritizing development issues, proposing technical alternatives, choosing demonstration plots, collaboratively designing experiments, obtaining

feedback on techno-social and economic validation of the designs. This method of implementing new and alternative conservation techniques will evolve over the period of the project and will form the core of the knowledge base.

Extensive field trips are organised to liaise with farmer groups and to implement various techniques such as the DMC (Direct Seeding – Mulch based Cropping systems). The viability and success rate of the adaptation of these techniques will be carefully analysed and compared with other cropping systems. The results of the design work will be fed into the extension services via the training programmes. Recommendations resulting from the implementations will be incorporated into the knowledge base.

Conservation Agriculture involves:

- Initial agro-economic assessment: and social diagnosis of farming systems, human and physical environments, provides a basis for generating technologies adapted to smallholders' strategies and environmental conditions
- Setting up medium-term demonstration plot units where conventional systems are continuously compared with DMC systems based on available technologies and innovative DMC systems based on new technologies and inputs
- Adaptation and validation by smallholders of DMC systems and simple technologies
- On-farm implementation with farmer groups: agro-economic evaluation for labour requirement, production costs, yields, net income and labour productivity
- Community-based approach which focuses on the adoption of technologies at village level, taking into account collective land management
- Ongoing training for smallholders, extension agents and information provision to policy makers
- Follow-up and analysis of the conditions of extension and adoption by farmers

As this process demonstrates, the knowledge base will systematically integrate the processes that are involved in implementing alternative conservation agriculture practices, with experience and the know-how at the core. The knowledge base will be addressed towards the farmers, extension services and the trade facilitation agencies.

The training sessions for the farmers and extension workers are essential to promote the application of conservation techniques reflecting on the trade and development sector and on the implementation activities of the government bodies. This will also help generate valuable feedback on

- the satisfaction of the end-user with the design and presentation of the knowledge base
- the quality and the comprehensive nature of the scientific data provided
- the relevance of the information provided to the original requirements

Feedback generated at the end of training sessions will allow for the constant improvement of both the presentation and the scientific content of the knowledge base. This will ensure that the information flow is streamlined and will meet the needs of the defined target groups in all respects.

Capacity Building Activities - Training and Feedback

Cropping systems can be regularly improved via the "innovation-extension" approach, while meeting the requirements of farmers on the one hand and the market demands on the other.

Regular training sessions will be held for the farmers and extension workers. Feedback from these sessions will help improve the content and the organisation of the knowledge base.

The choice of Open Source Software is very important since it will reduce the cost of ownership and also the applications running on it. There is a wide choice of readily available free applications which can be customised to suit requirements, whereas proprietary software is expensive and does not offer the flexibility of customisation to the local requirements

Dissemination Seminars

Dissemination seminars will be conducted in Europe and Asia to make the business communities of the respective regions more aware of the investment opportunities in eco-friendly agricultural trade. Project outputs, such as CD-Roms, the online knowledge base and brochures, will be publicised and demonstrated.

V. Impact to date

- More than 1000 visits have been organised
- More than 3000 training days have taken place
- Demonstration sites have been laid out in 14 districts
- All the documents produced by the indirect partners in the project have been collected for final layout to be put on the website
- The workshop to launch the project was organised in September 2007
- Two provincial seminars in the provinces of Xayaboury and Xieng Khouang were organised in June and July 2007. More than 200 people representing all the categories of participants (farmer groups, private sector, representatives of commerce and the banking sector, agricultural extension workers, representatives of the provincial agricultural services, women's groups, projects, and provincial and district authorities and the MAF) attended these workshops
- Various discussion meetings were organised in the provinces with each category of participant to resolve problems in publicising agro-ecological techniques

All the target groups of the project and the direct and indirect partners were involved in the process of discussion and action on conservation agriculture. The various meetings enabled all stakeholders to report on their contributions and needs. The pooling and comparison of contributions and requirements revealed synergies and problems in publicising agro-ecological techniques. This process made it possible to accelerate actions already under way, especially those concerned with the formation of the players into groupings.

Finally, this whole process enables MAF to launch its national strategy in support of conservation agriculture, which will be discussed at annual planning meetings and in accordance with the five-year plan structured around village development clusters (Kum Ban Pattana).

The funding bodies operating in Laos are currently working together on sustainable development for the provinces in the north of Laos. On the initiative of the French Development Agency, the World Bank and the European Union, this concerted approach should result in the setting up of a concerted "programme" approach. Conservation Agriculture will be one of the priority areas within this programme of rural development. This project, whose main objectives are to encourage communication between the agricultural

and commercial sectors, to raise awareness among the various players of the need to promote conservation agriculture, and to reinforce capacities in terms of training, fits in very clearly both with this national strategy and with the priorities of the European Union. Thus it contributes to the promotion of European aid for sustainable, environmentally-friendly rural development.

VI. Links with other projects/programmes

As explained earlier, the ORCATAD project has been able to benefit from the close links between the development projects under way in the two provinces of Xieng Khouang and Xayaboury. The main ones are:

- PASS: Rural Development in southern Xayaboury
- PCADR: Capitalisation programme in support of the rural development policy
- PRONAE: Lao National Agro-ecology Programme
- PROSA: Sector-based Programme in Agro-ecology

These projects are financed by French cooperation, the French Development Agency, (AFD) and the French Fund for the World Environment (FFEM). The synergies with these projects can be summarised as follows:

- The projects finance the creation and maintenance of demonstration and training sites and the establishment of plots with farmers, which will make it possible to multiply the intervention sites in a consistent way.
- The ORCATAD project provides them with additional support in terms of communication and training and encourages links with the markets and the commercial sector, notably at the centre (MoIC). Putting the database online and its access via the website will add considerable value for these projects in particular and for every new development project in general.

Furthermore, the international projects working with NAFRI are also indirectly associated. In particular, the Centre for Information Technologies is supported by Swedish cooperation.

Finally, the MAF will encourage integration of agro-ecology (DMC) and conservation agriculture in future rural development projects. This point will be further considered below.

VII. Sustainability

The sustainability of the actions and results of the project is directly linked to:

- the on-going processes of transfer to local people involved in communication and training. This strategy is also that adopted for all the conservation agriculture projects. In particular, the local structures in each province and districts concerned are automatically associated with the projects, especially PAFO and the DAFO (Principal and District Agriculture and Forestry Offices)
- the on-going deliberations about the provincial agro-ecology publicity strategies initiated by the two provincial workshops held in June and July 2007
- the political desire to publicise agro-ecological techniques nationally

Whatever the scale of the intervention – villages, districts, provinces or central government – a structure for bringing together all those involved in rural development is in the process of being discussed and established. Only such a broad-based structure will be able to ensure the necessary financial and human resources. A strategy founded on the national network of

village development clusters (Kum Ban Pattana) is being set up. Also, on the initiative of MAF, it will rest partly on the creation of sites for demonstration, training and service provision centred on conservation agriculture. Extra resources will be allocated, which could come from national resources, international projects, or from the establishment of specific development funds based on better management and preservation of natural resources.

In this active and promising national context, the approaches and results of the project will be greatly enhanced. All of the current direct and indirect partners will continue to be associated with the ongoing process. The strengthening of capacity brought about by the project will therefore also be thoroughly justified. On the other hand, it will be vital to cement the strong foundations of the methodology employed, i.e. a close and ongoing partnership between all the players in the development (farmers, extension workers, private sector and bankers, political leaders, sponsors etc.) and research.

An ongoing dialogue is being maintained with the political leaders and the various sponsors. An inter-donor arrangement is being established, largely on the initiative of the AFD, the EC and the World Bank for the 6 provinces in the north of Laos. It is already planned to include conservation agriculture in the proposed rural development process.

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Signature:	

ANNEXES: Action Plan and Logical Framework

ACTION PLAN FOR THE SECOND YEAR

Year 2 Activities	Semester 1						Semester 2						Implementing body
	1	2	3	4	5	6	7	8	9	10	11	12	
1a – Open the project website													NAFRI
1b – Open the project e-forum													NAFRI
2b – Establishing demonstration plots													NAFRI + CIRAD
2c – Verifying eco-friendly products (soil quality)													NAFRI + CIRAD
2d – Finalise recommendations for the knowledge base													NAFRI + CIRAD + WU
3a – Prepare multimedia documents													NAFRI + CIRAD
3b – Training of Trainers													NAFRI + CIRAD + WU
3c – Farmers and Extension workers fields school													NAFRI + CIRAD + WU
3d – Field visits													NAFRI + CIRAD
4a – Initial knowledge base on various concepts and practices													NAFRI + CIRAD
4b – Building the core of the knowledge base													NAFRI + CIRA
4c – Enriching the knowledge base													NAFRI + WU
4d – Final release													NAFRI + WU
5a – Preparation of dissemination materials													NAFRI
5b – Organisation of Trade Potential Seminar in Lao PDR													NAFRI + CIRAD
5c – Organisation of Trade Potential Seminar in Europe													NAFRI + CIRAD + WU

Report from Year 1

Logical Framework

There is no change to the framework planned

	Intervention logic	Objectively verifiable indicators of achievement	Sources and means of verification	Assumptions
Overall objectives	* To facilitate the integration of Lao PDR into the fast-growing global information society using ICT tools for the promotion of conservation and agricultural techniques which will in turn promote trade in eco-friendly agro-products	Increased adoption of conservation agriculture techniques in the target provinces resulting in enhanced production of eco-friendly products available to the export market	Availability of the open-source knowledge base on conservation agriculture online Agricultural statistics from: * Ministry of Agriculture and Forestry * Provincial and district extension services * Surveys	
Project purpose	* To increase the practice of conservation agriculturel techniques and production of eco-friendly agro-based goods by using IT&C solutions * To reinforce the institutional capabilities of intermediary business organisations and SMEs of Lao PDR with respect to niche markets and new business opportunities in the international market for eco-friendly products	10 cropping systems/Province with conservation agriculture techniques well-described according to the socio-economic and biophysical context and their conditions of adoption One project website linked to database of conservation agriculture techniques and production Extension of conservation agriculture techniques in 2 Provinces 3 districts in each province = 6 districts each year Requests from other provinces	Field Reports and quarterly updates of the project prepared by the project team Agricultural statistics from: * Ministry of Agriculture and Forestry * Provincial and district extension services * Surveys	The Government of the Lao PDR has already decided to promote conservation agriculture practices in the country. It has issued an official decree signed by the Council of Ministers to all the provincial administrations to promote these alternative practices. NAFRI and NAFES are fully incorporated by the decree of the council of Ministers and have to contribute to the five year plan of the MAF to extend Conservation agriculture techniques to all the Lao PDR. Spirited cooperation of the local SMEs and business organisations
Expected results	***Concrete Outputs:*** * Sources of knowledge base on conservation agriculture techniques for certain cash crops available on the internet and other media * Best practices in conservation agriculture adapted by farmers in the targeted areas * Knowledge of the business organisations and SMEs about the potential for international trade (production and marketing mechanisms) in eco-friendly products enhanced	Operational website Synthesis from 300 soils analyses 500 copies of all modules products distributed 1000 copies of cd-rom distributed 30 farmers/district = 180 farmers each year * 6 demonstration plots * 5 interventions in the media (TV, Radio, newpapers…) each year * 2 trade seminars (1 in Lao PDR, 1 in France) * 2 communication seminars/year * 1 launch and 1 final workshop * 1 long term (6 months) practical training session in each province each year * 3 short term (1 week to 10 days) training sessions in each province each year * 5 NAFRI Staff trained during the project * 2 NAFRI staff (ToT)/district = 6 NAFRI staff each year (ToT) * 10 Extension workers/district = 60 extension workers each year * 200 fields visits each year by farmers, extensionists, policy makers, media, Rural Development Project managers…	A project website linked to knowledge base on-line * frequent visits/hits on the project website Availability and diversity of materials on both soft and hard formats Regular reports and seminars of the project, associated projects and NAFRI Reports from: * Ministry of Agriculture and Forestry * Provincial and district extension services * Rural Development Projects (PRONAE…) Dissemination seminars and materials in form of brochures and exhibits Two trade potential dissemination seminars organised; one in Asia, one in France, to disseminate the products addressing the business communities and intermediary business organisations	The NAFRI and Extension Services' (NAFES) capacity to absorb and continue using what they got from the project is confirmed by the already existing dynamics in the extension of conservation agriculture in the districts where they work together The conditions of adoption of these techniques by the farmers should be studied, but due to the large diversity of cropping systems (even for the poor) proposed and to their positive impact to the socio-economic results, the extension of DMC systems will progress in tandem with communication and training. Appropriate minimal social conditions in the remote areas of Lao PDR Timely support from business organisations
Activities	***Activities:*** a) project launch, preparation of website, selection of field areas b) Implementation of conservation techniques c) Training of farmers and extension services d) Building up knowledge base on conservation agriculture best practices for eco-friendly cash crops, which will be available online, as cd-roms and books e) Communication & Dissemination of activities about the scope for international trade in eco-friendly agro products	***Means:*** Provision of web-server, IT equipment, mobilisation of agronomists, field staff, vehicles Bibliography, Demonstration Plots, Agronomists, Field trips Communication expert, Training modules IT staff with equipment Training Sessions for target groups, Seminars, production of dissemination material, intermediary business organisations and SMEs		Spirited cooperation of the local agencies from the State, business organisations and SMEs